What is claimed is:

1. A gain medium comprising:

a substrate;

a reflecting layer disposed on said substrate; and

a layer of material comprising a plurality of gain regions and a passive/lossy region or regions, said gain regions being subjected, in use, to electric fields, in order produce gain in the gain regions relative to the passive/lossy region or regions.

2. The gain medium of claim 1 wherein said plurality of gain regions are defined by a plurality of annular-like electrically conductive members disposed adjacent the layer of material.

3. The gain medium of claim 2 wherein said reflecting layer is segmented into a set of regions which have essentially the same shape and size as said annular-like electrically conductive members and being centered on respective ones of said annular-like electrically conductive members.

4. The gain medium of claim 2 wherein said plurality of annular-like electrically conductive members are each covered by an optically transparent, but electrically conductive cover.

5. The gain medium of claim 1, wherein said layer of material comprises GaAs.

6. The gain medium of claim 2, wherein said annular-like electrically conductive members are each circularly shaped.

7. The gain medium of claim 2 wherein said annular-like electrically conductive members are interconnected electrically with one another by a conductive ribbon which follows a serpentine path between adjacent ones of said annular-like electrically conductive members.

8. The gain medium of claim 1, further including cooling channels in said passive/lossy regions or regions for conducting heat generated therein away from the gain medium.

9. The gain medium of claim 1 wherein the gain regions are differently doped relative to the passive/lossy region or regions.

10. The gain medium of claim 1 wherein the passive/lossy region or regions are optically damaged.

11. The gain medium of claim 1 wherein the passive/lossy region or regions are trenched.

12. A method of minimizing the potential for parasitic oscillation modes and amplified spontaneous emissions, comprising the following steps:

fabricating a monolithic gain element;

partitioning said monolithic gain element into a plurality of gain regions and at least one passive/lossy region; and

subjecting the gain, in use, to electric fields, in order produce gain in the gain regions relative to the at least one passive/lossy region.

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13. The method of claim 12 wherein said step of partitioning further comprises doping to form gain regions.

14. The method of claim 12 wherein said step of partitioning further comprises doping said at least one passive/lossy region.

15. The method of claim 12 wherein said step of partitioning further comprises optically damaging said at least one passive/lossy region.

16. The method of claim 12 wherein said step of partitioning further comprises trenching said at least one passive/lossy region.

17. The method of claim 12, wherein said monolithic gain element comprises GaAs.

18. A laser system, comprising:

an input optical signal beam;

at least one pumping source; and

at least one monolithic gain element being partitioned into gain regions and at least one passive/lossy region, said gain element being pumped by said at least one pumping source in order to amplify said input optical signal beam to produce an amplified output optical signal beam, the monolithic gain element having a substrate, a reflecting layer disposed on said substrate, and a layer of lasing material partitioned into said gain regions and said at least one passive/lossy region, said plurality of gain regions being differently electrically pumped relative to said at least one passive/lossy region.

19. The laser system of claim 18 wherein said gain regions are doped regions.

20. The laser system of claim 18 wherein said lossy regions are optically damaged regions.

21. The laser system of claim 18 wherein the gain regions are differently doped relative to the at least one passive/lossy region.

22. The laser system of claim 18 wherein the passive/lossy region or regions are trenched.

23. The laser system of claim 18, wherein said monolithic gain element comprises GaAs.

24. A laser system comprising:

an input signal beam;

at least one pumping source;

a plurality of monolithic gain medium elements having a plane, fabricated to provide a passive/lossy configuration to minimize modes of operation that are substantially within the plane, while maintaining a high-gain path for a mode of operation that is substantially normal to the plane; and

a plurality of amplifier stages, each of the amplifier stages comprising at least one of said plurality of monolithic gain medium elements, a subsequent amplifier stage comprising at least another one second said monolithic gain medium elements, and each of said plurality of

monolithic gain medium elements being adapted to receive the input signal beam, being electrically pumped by said at least one pumping source, and being partitioned into gain regions and passive/lossy regions in order to amplify said input signal beam to produce the amplified output signal beam.

25. The laser system of claim 24, wherein said monolithic gain elements comprise GaAs.

26. The laser system of claim 24 wherein said gain regions are doped regions.

27. The laser system of claim 24 wherein said lossy regions include trenches.

28. The laser system of claim 24 wherein said lossy regions are optically damaged regions.